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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/810,818	03/29/2004	Kurt Helming	P8187US	9998
7590 03/23/2005				
Kohler Schmid + Partner Ruppmannstr. 27 D-70565 Stuttgart, GERMANY				
			EXAMINER KEANEY, ELIZABETH MARIE	
			ART UNIT 2882	PAPER NUMBER

DATE MAILED: 03/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/810,818

Applicant(s)

HELMING ET AL.

Examiner

Elizabeth Keaney

Art Unit

2882

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2004.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-5 and 7-10 is/are rejected.
7) ☒ Claim(s) 6 and 11-14 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 29 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/29/04; 6/23/04.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claim 8 is objected to because of the following informalities:

- Line 3: "said first and said wobble means"; should be --said first and said second wobble means--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,2,4 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Edic et al. (US Patent 6,175,609; hereinafter Edic).

Re claim 1: Edic discloses, in figure 3 and throughout the disclosure, an x-ray optical system for examining a sample, the system comprising:

- an x-ray source (72) from which x-ray radiation (78) is guided to the sample (82);
- an x-ray detector (74) for receiving radiation from the sample;
- at least one optical element (76) disposed between the detector and the sample; and

- wobble means (110) cooperating with the at least one optical element to move the at least one optical element in an oscillating fashion (column 4, line 44-46).

Re claim 2: Edic discloses the at least one optical element to be a collimator (column 3, line 33).

Re claim 4: Edic discloses the wobble means being activated for a measurement of the sample (column 4, lines 33-46).

Re claim 9: Edic discloses the wobble means to comprise a motorized drive (column 3, lines 47-48).

Claims 1,2,8 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Watanabe (US Patent 5,050,199).

Re claim 1: Watanabe discloses, in figure 1 and throughout the disclosure, an x-ray optical system for examining a sample, the system comprising:

- an x-ray source (1) from which x-ray radiation is guided to the sample (8);
- an x-ray detector (9) for receiving radiation from the sample;
- at least one x-ray optical element disposed between the source and the sample (3) and between the detector and the sample (4); and

- wobble means (5,6,7) cooperating with the at least one optical element to move the at least one optical element in an oscillating fashion (column 3, line 29).

Re claim 2: Watanabe discloses the at least one optical element to be a collimator (column 3, lines 17-20).

Re claim 8: Watanabe discloses, in figure 1 and throughout the disclosure,

- a first wobble means (5) disposed on a side of the source and
- a second wobble means (6) disposed on a side of the detector,
 - wherein the first and second wobble means have synchronized oscillation motion (column 3, line 29).

Re claim 9: Watanabe discloses the wobble means comprises a motorized drive (column 3, line 43).

Claims 1,3,9 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Jacobs et al. (US Patent 3,832,562; herein after Jacobs).

Re claim 1: Jacobs discloses, in figure 1 and throughout the disclosure, an x-ray optical system for examining a sample, the system comprising:

- an x-ray source (10) from which x-ray radiation is guided to the sample (18);

- an x-ray detector (22) for receiving radiation from the sample;
- at least one x-ray optical element (14) disposed between the source and the sample; and
- wobble means (28) cooperating with the at least one optical element to move the at least one optical element in an oscillating fashion.

Re claim 3: Jacobs discloses x-ray radiation being diffracted from the sample (column 4, line 19).

Re claim 9: Jacobs discloses the wobble means comprising a motorized drive (column 4, lines 53-54).

Re claim 10: Jacobs discloses the wobble means comprising a piezo element (column 4, line 53).

Claims 1,3-5,7 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Fothergill (US Patent 4,950,898).

Re claim 1: Fothergill discloses, in figure 1 and throughout the disclosure, an x-ray optical system for examining a sample, the system comprising:

- an x-ray (column 11, line 7) source (16) from which x-ray radiation is guided to the sample (10);
- an x-ray detector (26) for receiving radiation from the sample;

- at least one x-ray optical element (18) disposed between the source and the sample; and
- wobble means (20) cooperating with the at least one optical element to move the at least one optical element in an oscillating fashion (column 12, line 6).

Re claim 3: Fothergill discloses the x-ray radiation being scattered from the sample (column 12, line 5).

Re claim 4: Fothergill discloses the wobble means being activated for a measurement of the sample (column 3, lines 56-62).

Re claim 5: Fothergill discloses an oscillation frequency of the wobble means being selected such that an integer multiple of half oscillations is performed during one measurement (column 4, line 36).

Re claim 7: Fothergill discloses the amplitudes of the wobble means can be adjusted to sweep predetermined, selected regions of the sample (column 4, lines 4-6).

Re claim 9: Fothergill discloses the wobble means comprised of a motorized drive (column 6, lines 9-11).

Allowable Subject Matter

Claims 6 and 11-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Re claim 6: The best prior art of record discloses an x-ray optical system for examining a sample, the system comprising: an x-ray source, an x-ray detector, at least one x-ray optical element disposed between the source and a sample and/or between the detector and a sample; and a wobble means cooperating with the at least one optical element to move the at least one optical element in an oscillating fashion. However, the prior art fails to teach or fairly suggest an x-ray optical system wherein the wobble means can cause at least two mutually independent oscillations of the x-ray optical element, as claimed in claim 6.

Re claim 11: The best prior art of record discloses an x-ray optical system for examining a sample, the system comprising: an x-ray source, an x-ray detector, at least one x-ray optical element disposed between the source and a sample and/or between the detector and a sample; and a wobble means cooperating with the at least one optical element to move the at least one optical element in an oscillating fashion. However, the prior art fails to teach or fairly suggest an x-ray optical system wherein an

amplitude of the wobble means is adjusted such that angular changes in the x-ray radiation impinging on the sample are less than 1 degree, as claimed in claim 11.

Re claim 12: The best prior art of record discloses an x-ray optical system for examining a sample, the system comprising: an x-ray source, an x-ray detector, at least one x-ray optical element disposed between the source and a sample and/or between the detector and a sample; and a wobble means cooperating with the at least one optical element to move the at least one optical element in an oscillating fashion. However, the prior art fails to teach or fairly suggest an x-ray optical system wherein an amplitude of the wobble means is adjusted such that angular changes in the x-ray radiation detected by the detector are less than 1 degree, as claimed in claim 12.

Re claim 13: The best prior art of record discloses an x-ray optical system for examining a sample, the system comprising: an x-ray source, an x-ray detector, at least one x-ray optical element disposed between the source and a sample and/or between the detector and a sample; and a wobble means cooperating with the at least one optical element to move the at least one optical element in an oscillating fashion. However, the prior art fails to teach or fairly suggest an x-ray optical system wherein an amplitude of the wobble means is adjusted such that angular changes in the x-ray radiation impinging on the sample are less than or approximately 0.5 degrees, as claimed in claim 13.

Re claim 14: The best prior art of record discloses an x-ray optical system for examining a sample, the system comprising: an x-ray source, an x-ray detector, at least one x-ray optical element disposed between the source and a sample and/or between the detector and a sample; and a wobble means cooperating with the at least one optical element to move the at least one optical element in an oscillating fashion. However, the prior art fails to teach or fairly suggest an x-ray optical system wherein an amplitude of the wobble means is adjusted such that angular changes in the x-ray radiation detected by the detector are less than or approximately 0.5 degrees, as claimed in claim 14.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth Keaney whose telephone number is (571)272-2489. The examiner can normally be reached on Monday-Thursday 5:30-4.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on (571)272-2490. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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EDWARD J. GLICK
SUPERVISORY PATENT EXAMINER